AMENDMENTS TO THE CLAIMS

1-39. (Canceled)

40. (Currently Amended) A method for determining medication efficacy, comprising:

a) providing;

i) a patient exhibiting a first electroencephalogram, ~~wherein said patient is drug and medication free, and wherein said first electroencephalogram excludes paroxysmal events~~; and

ii) a medication; and,

b) converting said first electroencephalogram to at least one first multivariate outcome measurement wherein said first outcome measurement comprises a plurality of first univariate Z scores, wherein said first multivariate outcome measurement is derived from a frequency band selected from the group consisting of delta, theta, alpha, and beta;

c) administering said medication to said patient;

d) obtaining a second electroencephalogram from said patient, wherein said patient is awake, and converting said second electroencephalogram to at least one second multivariable outcome measurement wherein said second outcome measurement comprises a plurality of second univariate Z scores, wherein said second multivariate outcome measurement is derived from a frequency band selected from the group consisting of delta, theta, alpha, and beta; and

e) comparing said first multivariate outcome measurement with said second multivariate outcome measurement wherein a differential change between said first and second measurement determines said medication efficacy.

41. (Previously Presented) The method according to claim 40, wherein said comparing further comprises using a reference database.

42. (Previously Presented) The method according to claim 40, wherein said difference between said first multivariate outcome measurement and second follow-up multivariate outcome measurement is proportional to the efficacy of said medication.

43-49. (Canceled)

50. (Previously Presented) The method of Claim 40, wherein said delta frequency band comprises a first set of univariate measurements selected from the group consisting of absolute power, relative power, coherence, and symmetry.

51. (Previously Presented) The method of Claim 40, wherein said theta frequency band comprises a second set of univariate measurements selected from the group consisting of absolute power, relative power, coherence, and symmetry.

52. (Previously Presented) The method of Claim 40, wherein said alpha frequency band comprises a third set of univariate measurements selected from the group consisting of absolute power, relative power, coherence, and symmetry.

53. (Previously Presented) The method of Claim 40, wherein said beta frequency band comprises a fourth set of univariate measurements selected from the group consisting of absolute power, relative power, coherence, and symmetry.

54. (Currently Amended) A method for determining medication efficacy, comprising:

a) providing;

i) a patient exhibiting a first electroencephalogram, ~~wherein said patient is drug and medication free, and wherein said first electroencephalogram excludes paroxysmal events~~; and

ii) a medication;

b) converting said first electroencephalogram to at least one first multivariate outcome measurement wherein said first outcome measurement comprises a plurality of first univariate Z scores, wherein said first multivariate outcome measurement is derived from a frequency band selected from the group consisting of ranging from approximately 0.5-3.5 Hertz, ranging from approximately 3.5-7.5 Hertz, ranging from approximately 7.5-12.5 Hertz, and ranging from approximately 12.5-35 Hertz;

c) administering said medication to said patient, thereby resulting in a medicated patient;

d) obtaining a second electroencephalogram from said medicated patient, wherein said patient is awake, and converting said second electroencephalogram to at least one second multivariable outcome measurement wherein said second outcome measurement comprises a plurality of second univariate Z scores, wherein said second multivariate outcome measurement is derived from a frequency band selected from the group consisting of ranging from approximately 0.5-3.5 Hertz, ranging from approximately 3.5-7.5 Hertz, ranging from approximately 7.5-12.5 Hertz, and ranging from approximately 12.5-35 Hertz; and

e) comparing said first multivariate outcome measurement with said second multivariate outcome measurement wherein a differential change between said first and second measurement determines said medication efficacy.

55. (Previously Presented) The method according to claim 54, wherein said comparing further comprises using a reference database.

56. (Previously Presented) The method according to claim 54, wherein said difference between said first multivariate outcome measurement and second follow-up multivariate outcome measurement is proportional to the efficacy of said medication.

57-60. (Canceled)

61. (Withdrawn) A method for determining medication efficacy, comprising:

a) providing;

i) a patient exhibiting an electroencephalogram, wherein said patient is drug and medication free, and wherein said first electroencephalogram excludes paroxysmal events; and

ii) a medication; and,

b) converting said electroencephalogram to at least one multivariate outcome measurement wherein said outcome measurement comprises a plurality of first univariate Z scores, wherein said outcome measurement is derived from a frequency band selected from the group consisting of delta, theta, alpha, and beta;

c) administering said medication to said patient, thereby resulting in a medicated patient;

d) observing at least one improved clinical outcome in said medicated patient, wherein said outcome is selected from the group consisting of a Clinical Global Improvement score, a Hamilton-D score, and a Beck Depression score; and

e) identifying at least one multivariate outcome measurement from said electroencephalogram as determining said medication efficacy.

62. (Withdrawn) The method of Claim 61, wherein said Clinical Global Improvement score ranges between approximately 1 to 3.

63. (Withdrawn) The method of Claim 61, wherein said Hamilton-D score is statistically significantly improved.

64. (Withdrawn) The method of Claim 61, wherein said Beck Depression score is statistically significantly improved.